CLAIMS

1. An electric heater (2) adapted for location behind a surface to be heated and comprising a dish-like support (6) having therein at least one electric heating element (12) having a first terminal region (12A) and a second terminal region (12B) and a temperature-responsive device (14), characterised in that the temperature-responsive device comprises an electrical component (18) having an electrical parameter which changes as a function of temperature and arranged to be supported inside the heater (2) by an elongate member (16) which is adapted to be secured to the heater (2) and to extend at least partially across the heater (2) from a region externally of the periphery thereof, an electrically insulating carrier member (30) being secured to the elongate member (16) at a location externally of the periphery of the heater (2), the carrier member (30) having a first side edge (32) and a second side edge (38) laterally disposed at opposite sides of the elongate member (16) and provided with a first electrically conductive element (34) and a second electrically conductive element (40) accessible at the opposite side edges (32, 38) of the carrier member (30) for electrical connection to the first and second terminal regions (12A, 12B) respectively of the at least one electric heating element (12).

2. An electric heater as claimed in claim 1, characterised in that electrical connection of the first and second electrically conductive elements (34, 40) to the respective first and second terminal regions (12A, 12B) of the at least one heating element (12) is by means of direct contact between the electrically conductive elements (34, 40) and the terminal regions (12A, 12B).

3. An electric heater as claimed in claim 1 or 2, characterised in that the first and second terminal regions (12A, 12B) of the at least one heating element (12) extend through apertures in the dish-like support (6) for electrical connection to the first and second electrically conductive elements (34, 40).

4. An electric heater as claimed in any preceding claim, characterised in that the first and second terminal regions (12A, 12B) of the at least one heating element (12) are electrically connected to the first and second electrically conductive elements (34, 40) by welding.

5. An electric heater as claimed in any preceding claim, characterised in that at least one of the first and second electrically conductive elements (34, 40) is provided with a portion (36, 42) selected from a strip-like portion and a flanged portion for securing to at least one of the first and second terminal regions (12A, 12B) of the at least one heating element (12).

6. An electric heater as claimed in claim 5, characterised in that the strip-like portion has a plane thereof disposed in any desired orientation from a vertical plane to a horizontal plane.

7. An electric heater as claimed in claim 5, characterised in that the flanged portion has a wall portion with a dependant laterally-directed ledge portion (36A, 42A).

8. An electric heater as claimed in any one of claims 5 to 7, characterised in that at least one of the first and second electrically conductive elements (34, 40) has the

portion (36, 42) extending in a direction towards the heater (2) and at a predetermined angle relative to a rim of the dish-like support (6).

9. An electric heater as claimed in claim 1, characterised in that at least one of the first and second electrically conductive elements (34, 40) is arranged for electrical connection to a terminal region selected from the respective first and second terminal regions (12A, 12B) of the at least one heating element (12) by way of at least one electrically conductive link (56).

10 An electric heater as claimed in claim 9, characterised in that the at least one electrically conductive link (56) is of a form selected from wire and strip form.

11. An electric heater as claimed in claim 9 or 10, characterised in that the at least one electrically conductive link (56) extends through apertures in the dish-like support (6) for electrical connection to the first and second electrically conductive elements (34, 40).

12. An electric heater as claimed in any one of claims 9 to 11, characterised in that the at least one electrically conductive link (56) is electrically connected to the first and second electrically conductive elements (34, 40) by welding.

13. An electric heater as claimed in any one of claims 9 to 12, characterised in that at least one of the first and second electrically conductive elements (34, 40) is provided with a portion (36, 42) selected from a strip-

like portion and a flanged portion for securing to the at least one electrically conductive link (56).

14. An electric heater as claimed in claim 13, characterised in that the strip-like portion has a plane thereof disposed in any desired orientation from a vertical plane to a horizontal plane.

15. An electric heater as claimed in claim 13, characterised in that the flanged portion has a wall portion with a dependant laterally-directed ledge portion (36A, 42A).

16. An electric heater as claimed in any one of claims 9 to 15, characterised in that at least one of the first and second electrically conductive elements (34, 40) has the portion (36, 42) extending in a direction towards the heater (2) and at a predetermined angle relative to a rim of the dish-like support (6).

17. An electric heater as claimed in any preceding claim, characterised in that the first and second electrically conductive elements (34, 40) extend laterally at the first and second opposite side edges (32, 38) of the carrier member (30).

18. An electric heater as claimed in any preceding claim, characterised in that the at least one electric heating element (12) is of corrugated ribbon form (12) supported upstanding on edge in the dish-like support (6).

19. An electric heater as claimed in claim 18, characterised in that at least one of the first and second terminal regions (12A, 12B) of the at least one

electric heating element (12) of corrugated ribbon form (12) is connected directly to at least one of the first and second electrically conductive elements (34, 40) and has an orientation substantially the same as that of the at least one electric heating element (12) as supported in the dish-like support (6).

20. An electric heater as claimed in claim 18, characterised in that at least one of the first and second terminal regions (12A, 12B) of the at least one electric heating element (12) of corrugated ribbon form (12) is connected directly to at least one of the first and second electrically conductive elements (34, 40) and is twisted through an appropriate angle for connection to at least one of the first and second electrically conductive elements (34, 40).

21. An electric heater as claimed in any preceding claim, characterised in that the first and second electrically conductive elements (34, 40) comprise metal.

22. An electric heater as claimed in claim 21, characterised in that the metal is selected from stainless steel and nickel-plated steel.

23. An electric heater as claimed in any preceding claim, characterised in that the first and second electrically conductive elements (34, 40) are provided with means for electrical connection thereof to external lead wires (50).

24. An electric heater as claimed in claim 23, characterised in that the means for electrical connection comprises terminal members (44, 48).

25. An electric heater as claimed in claim 24, characterised in that the terminal members (44, 48) are of a form selected from tab and spade form.

26. An electric heater as claimed in any preceding claim, characterised in that the carrier member (30) comprises ceramic material.

27. An electric heater as claimed in any preceding claim, characterised in that the electrical component (18) is provided with electrical leads (20) extending therefrom and emerging from the elongate member (16) at the region of the heater (2) externally of the periphery thereof.

28. An electric heater as claimed in claim 27, characterised in that the electrical leads (20) are adapted to be electrically connected to an electronic controller (26) which is adapted to provide controlled electrical connection between a power supply (28) and the first and second electrically conductive elements (34, 40).

29. An electric heater as claimed in claim 28, characterised in that the electronic controller (26) is a microprocessor-based controller (26).

30. An electric heater as claimed in any preceding claim, characterised in that the electrical component (18) comprises a device whose electrical resistance changes as a function of temperature.

31. An electric heater as claimed in any preceding claim, characterised in that the electrical component

(18) comprises an electrical resistance temperature detector.

32. An electric heater as claimed in claim 31, characterised in that the electrical resistance temperature detector is a platinum resistance temperature detector.

33. An electric heater as claimed in any preceding claim, characterised in that the elongate member (16) comprises a tube inside which the electrical component (18) is arranged.

34. An electric heater as claimed in claim 33, characterised in that the tube is of a material selected from metal and ceramic.

35. An electric heater as claimed in any one of claims 1 to 32, characterised in that the elongate member (16) comprises a beam on a surface of which the electrical component (18) is provided.

36. An electric heater as claimed in claim 35, characterised in that the beam is of ceramic material.